

REMARKS

This is a full and timely response to the outstanding Office Action mailed October 6, 2005. Upon entry of the amendments in this response, claims 2, 5, 13-16, 18-20 and 35-37 remain pending of which claims 5 and 35-37 have been allowed in the outstanding Office Action. Applicants have currently amended claims 2 and 15 with no addition of new matter. Reconsideration and allowance of the application and all the remaining pending claims are respectfully requested.

A. Allowable subject matter

Applicants wish to express their sincere gratitude for Examiner's allowance of Claims 5 and 35-37.

B. Rejections of claims under 35 U.S.C. §102

Statement of the rejection

The Office Action states: "*Claims 2 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Spergel et al. (US Patent 3,418,474).*"

Claim 2

Applicants' substrate has been defined in Applicant's specification (page 9, lines 12-13) as: "Substrate 402 functions as **a support structure for** a series of conductive, e.g., metal, vias 404 and **detection circuits.**"

In rejecting Applicants' claim 2, the Office Action asserts that Spergel teaches "an imaging system (Figs. 1-4) comprising: a substrate (24); and **a gas detector formed on the substrate** (24)..." (Emphasis added) thereby equating Applicants' substrate to Spergel's non-conducting plastic plate 24.

Applicants respectfully assert that Spergel's gas detector is not formed **on** Spergel's non-conducting plastic plate 24. To the contrary, Spergel's non-conducting plastic plate 24 is an integral part of his detector circuit. Spergel describes this aspect in column 2, lines 38-53 as follows:

Generally, the detector of FIG. 1 is shown as comprising an electrically conducting, metallic, medial plate 20 having therethrough a plurality of openings 22, each of which is cylindrically developed about an axis that is perpendicular to the parallel faces of plate 20. At the rearward face of plate 20 is an **electrically non-conducting plastic plate 24 which is provided with a multiplicity of depressions 26, the cylindrical walls of which are developed about the same axis as are the cylindrical walls of apertures 222. Projecting through the seat 28 of each**

depression 26, as shown in FIG. 2, is an electrically conducting metallic needle, of which the rearward extremity, in the form of a sharp point, provides a discharge terminal.”
(Emphasis added)

Consequently, Spergel’s plastic plate 24 constitutes a part of his detector circuit unlike Applicants’ substrate which is a support structure to support a gas detector as defined in claim 2.

Furthermore, currently amended claim 2 now includes “a substrate comprising material suitable for a semiconductor manufacturing process.” This aspect has been described in Applicants’ original specification under “Summary of the Invention” as: “*X-ray imaging systems and methods of the invention involve the use of pixelated gas detectors. Such pixelated gas detectors can be constructed using conventional semiconductor fabrication techniques. This potentially enables the gas detectors to be formed by readily available and relatively inexpensive batch-processing techniques.*” Further mention has been made in Applicants’ specification under “Detailed description” on page 10, lines 7-10 as: “*The pixelated gas detector 100 of FIG. 4, as well as others described herein, can be formed of various materials. By way of example, the gas detector could be formed of material(s) suitable for manufacture by semiconductor fabrication techniques.*”

Applicants respectfully assert that in addition to not disclosing the use of a substrate as a support structure for a gas detector, Spergel further does not teach or disclose a substrate comprising material suitable for a semiconductor manufacturing process. Consequently, the single prior art reference (Spergel) does not properly disclose, teach or suggest each element of the claimed invention, as is required for a proper rejection of claim 2 under 35 U.S.C. §102(b). Applicants therefore request withdrawal of the Office Action rejection of claim 2, followed by allowance of claim 2.

Claim 15

In rejecting Applicants’ claim 15, the Office Action asserts that Spergel teaches all the elements of Applicants’ method claim 15 including a gas detector formed on the substrate (24)...” In the interests of brevity, the arguments presented above with reference to Applicants’ substrate will not be repeated herein, and Applicants respectfully assert that Spergel does not teach or suggest this aspect of Applicants’ claim 15.

Furthermore, currently amended claim 15 includes the step of “using a semiconductor fabrication technique to form on the substrate, a first chamber, a second chamber...”

Applicants respectfully assert that in addition to not disclosing Applicants' claim 15 step of forming a detector on the substrate, Spergel further does not teach or disclose "using a semiconductor fabrication technique to form on the substrate..."

Consequently, the single prior art reference (Spergel) does not properly disclose, teach or suggest each element of the claimed invention, as is required for a proper rejection of claim 2 under 35 U.S.C. §102(b). Applicants therefore request withdrawal of the Office Action rejection of claim 15, followed by allowance of claim 15.

C. Rejections under 35 U.S.C. §103(a)

1) Statement of the rejection

The Office action states: "*Claims 13, 14, and 18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Spergel et al. (US Patent 3,418,474) as applied to claims 2 and 15 above, and further in view of McDaniel (US Patent 4,780,897).*"

Response to the rejection

Claims 13 and 14

Applicants respectfully request withdrawal of the rejection of claims 13 and 14 for at least the reason that the rejection does not satisfy the requirements of MPEP § 2143.03, which states in pertinent part: "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)."

Specifically, claims 13 and 14 are nonobvious as they each depend on Claim 2 that is nonobvious. Hence, Applicants respectfully assert that claims 13 and 14 cannot be properly rejected under 35 U.S.C. 103(a), and hereby request withdrawal of the rejection followed by allowance of claims 13 and 14.

Claim 18

Applicants respectfully request withdrawal of the rejection of claim 18 for at least the reason that the rejection does not satisfy the requirements of MPEP § 2143.03 described above.

Specifically, claim 18 is nonobvious as it depends on Claim 15 that is nonobvious. Hence, Applicants respectfully assert that claim 18 cannot be properly rejected under 35 U.S.C. 103(a), and hereby request withdrawal of the rejection followed by allowance of claim 18.

2) Statement of the rejection

The Office action states: "*Claim 16 is rejected under 35 U.S.C. §103(a) as being unpatentable over Spergel et al. (US Patent 3,418,474) as applied to claim 15 above, and further in view of Siedband (US Patent 5,308,988).*"

Response to the rejection

Claim 16

Applicants respectfully request withdrawal of the rejection of claim 16 for at least the reason that the rejection does not satisfy the requirements of MPEP § 2143.03 described above.

Specifically, claim 16 is nonobvious as it depends on Claim 15 that is nonobvious. Hence, Applicants respectfully assert that claim 16 cannot be properly rejected under 35 U.S.C. 103(a), and hereby request withdrawal of the rejection followed by allowance of claim 16.

3) Statement of the rejection

The Office action states: "*Claims 19 and 20, are rejected under 35 U.S.C. §103(a) as being unpatentable over Spergel et al. (US Patent 3,418,474) as applied to claim 15 above, and further in view of Little et al. (US Patent 5,119,408).*"

Response to the rejection

Claims 19 and 20

Applicants respectfully request withdrawal of the rejection of claims 19 and 20 for at least the reason that the rejection does not satisfy the requirements of MPEP § 2143.03 described above.

Specifically, claims 19 and 20 are nonobvious as they each depend directly or indirectly on Claim 15 that is nonobvious. Hence, Applicants respectfully assert that claims 19 and 20 cannot be properly rejected under 35 U.S.C. 103(a), and hereby request withdrawal of the rejection followed by allowance of claims 19 and 20.


Prior Art Made of Record

The prior art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims 2, 5, 13-16, 18-20 and 35-37 are in condition for allowance. Of these pending claims, claims 5 and 35-37 have been allowed in the outstanding Office Action. Favorable reconsideration and allowance of all the remaining pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned representative at (404) 610-5689.


Respectfully submitted,



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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450, on **27 December 2005**.



Signature